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ABSTRACT

This paper reports the results of research conducted by the Academic Games program since its beginning in 1967. The research is classified and examined in three major categories: The Influence of Game-Playing on the Socialization of Children; Games as Controlled Research Environments, and Effectiveness of Games in Education. In addition, the paper contains brief summaries of the individual reports produced by the program. (Author)

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Center for Social Organization of Schools

Report No. 146
December, 1972

THE ACADEMIC GAMES PROGRAM: A SUMMARY OF RESEARCH RESULTS (1967-1972)

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SO 007 864

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SAMUEL A. LIVINGSTON

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INTRODUCTORY STATEMENT

The Center for Social Organization of Schools has two primary objectives: to develop a scientific knowledge of how schools affect their students, and to use this knowledge to develop better school practices and organization.

The Center works through five programs to achieve its objectives. The Academic Games program has developed simulation games for use in the classroom. It is evaluating the effects of games on student learning and studying how games can improve interpersonal relations in the schools. The Social Accounts program is examining how a student's education affects his occupational attainment, and how education results in different vocational outcomes for blacks and whites. The Schools and Maturity program is studying the effects of educational experience on a wide range of human talents, competencies, and personal dispositions in order to formulate -- and research -- important educational goals other than traditional academic achievement. The School Organization program is currently concerned with authority-control structure, task structures, reward systems, and peer group processes in secondary schools. The Careers and Curricula program bases its work upon a theory of career development. It has developed a self-administered vocational guidance device and a self-directed vocational guidance system to promote vocational development for high school, college, and adult populations.

This report, a project of the Academic Games program, summarizes the results of the research conducted by the program since its beginning in 1967.

ABSTRACT

This paper reports the results of research conducted by the Academic Games program since its beginning in 1967. The research is classified and examined in three major categories: The Influence of Game-Playing on the Socialization of Children; Games as Controlled Research Environments, and Effectiveness of Games in Education. In addition, the paper contains brief summaries of the individual reports produced by the program.

Introduction

The research of Academic Games program is concerned with the educational significance of games and game-like activities. The research reports generated by the program are distributed to interested researchers and users of simulation games, and are frequently published as articles in sociology, psychology, and education journals. In this paper, each report is identified by its publication number at the Center for Social Organization of Schools (CSOS). A bibliography is also included that lists the published articles based on the research reports.

This paper summarizes the research contained in 26 published reports in order to give interested researchers and educators a general knowledge of the results of this research. Readers who are interested in the full reports can order them through the ERIC system. The ERIC ordering number for each report is included with the report abstract in the Appendix.*

The research of the Academic Games Program can be classified into three major categories. The first category consists of investigations into the influence of game-playing on the socialization of children. The second consists of theoretical and empirical papers in which simulation games are considered as controlled environments for social and behavioral research. The third, and by far the largest, consists of research on the effectiveness of specific games and game-like activities for achieving specific educational objectives.

*Except in cases where an ERIC number has not yet been assigned.

I. Influence of Game-Playing on the Socialization of Children

The Academic Games program's research into the effects of children's natural games (i.e., games that children play in their free time, unsupervised by adults) has centered around the effects of game-playing on school achievement and on attitudes and personality traits related to school achievement. A survey of rural American sixth-graders showed strong relationships of this type (CSOS 29). Further analysis of the same data showed these effects to depend on both sex (CSOS 30) and race (CSOS 31). A survey of Israeli school children showed that relationships between game-playing and school achievement were mediated by certain psychological variables: sense of control, ability to concentrate, and creativity (CSOS 92).

II. Games As Controlled Research Environments

The Academic Games program's use of games as controlled research environments is based on the ideas set forth in two theoretical papers by James S. Coleman. In the first of these (CSOS 8) he shows how social processes can be simulated in game form; in the second (CSOS 22) he presents the rationale for the use of games as research environments. Coleman argues that games can provide for the social scientist a situation analogous to the controlled labratory environments used by physical scientists. Subsequent research has shown that players' behavior in a simulation game can depend systematically and predictably on their personal characteristics and their experiences outside the game (CSOS 23). More recently, a simulation game environment has been used in conjunction with psychological measurements to study the phenomenon of "spread of affect" (CSOS 111).

III. Effectiveness of Games in Education

The primary research concern of the Academic Games program has been the effectiveness of games for education. Although most of this work has been done with simulation games, non-simulation games have also been studied. An original non-simulation game ("Giant Steps") was shown to be effective for enhancing children's vocabulary skills (CSOS 82). A commercially available mathematics game (Equations), used under conditions of team competition, was found to produce greater learning of math skills than a traditionally taught unit (CSOS 135). Subsequent studies were made to isolate the separate effects and the interactive effect of the game activity and the team competition (CSOS reports in press).

A large part of the program's research with simulation games has been directed at finding out what educational objectives this technique is best suited to accomplish. Program research has shown that simulation games can teach facts, concepts, and relationships (CSOS 65, 104) and can do so as effectively as conventional instruction keyed to the same objectives (CSOS 10, 67, 128). Simulation games appear to be at least as good as conventional instruction - possibly better - at influencing students' behavior in a performance test, either real (CSOS 116) or simulated (CSOS 67). And simulation games can sometimes produce marked changes in the expressed attitudes of the players toward persons and activities represented in the game (CSOS 63, 114, 118, 134), although these changes may be short-lived (CSOS 118).

Proponents of simulation games for the classroom have claimed that simulation games increase students' motivation to learn. Academic Games

program research generally (but not unequivocally) supports this claim. Junior high school students preferred simulation games to conventional instruction, by a wide margin (CSOS 42, 65), and college students reported that a simulation game caused them to be more interested in a business course than they would otherwise have been (CSOS 121). One simulation game had no effect on junior high school students' preferences in subject matter to be studied (CSOS 64), but another game produced a marked increase in the school attendance rate of disadvantaged junior high school students (CSOS 65).

Not all the claims that have been made for simulation games as an educational medium have been supported by Academic Games program research. A series of three experiments with one simulation game showed no effect of the game on students' subsequent learning of related factual material (CSOS 64). And a single large-scale experiment in which students played two simulation games one class period per day for eight days showed no effect of the games on students' beliefs of control over their environment. (CSOS 10).

Another important focus of Academic Games program research has been the conditions under which the technique of teaching by means of simulation games is most effective. Variables investigated have included characteristics of the game itself, of the students, and of the situation in which the game is administered. The characteristics of the game that have been investigated include the presence or absence of various elements of game structure (i.e., a specified sequence of events, a scoring system, etc.) and of role-identification (i.e., specifying the real-life persons or groups that the players represent). The first experiment of this type, in which a game

structure was superimposed on an existing role-play exercise, showed no difference between the two treatments (CSOS 128). However, another experiment, in which an existing simulation game was modified by removing either the role identification or important elements of the game structure, showed that both these characteristics of the game contributed substantially to its effectiveness (CSOS 134). A replication of this experiment under classroom conditions yielded essentially the same results (CSOS report in press).

Academic Games program research has shown that the educational effectiveness of simulation games may depend on the students' academic ability and socioeconomic status. The relation between students' academic ability and their learning from a simulation game depends on the kind of learning being investigated. One experiment indicated a strong relationship for learning of facts, but not for awareness of cause-and effect (CSOS 104). Another experiment revealed that students' understanding of the mechanics of the game and of the analogies between the game and real life depended strongly on their academic ability, while their learning of successful strategies in the game was much less dependent on academic ability (CSOS 115). An experiment in which socioeconomic status (SES) was systematically varied (though confounded with race) showed that both simulation games and conventional instruction produced factual learning among high-SES white students, while neither treatment was effective for low-SES black students.

Academic Games program studies have also provided systematic information about the importance of the conditions under which a simulation game is administered. A survey of college students in an introductory business course that included a simulation game showed much

more positive reactions to the game for students who understood the instructor's purpose in using the game than for those who did not (CSOS 115). And an experiment with college students training to be special-education teachers showed a simulation game to be more effective when played in two short sessions with a discussion period between than when played in a single long session (CSOS 116).

APPENDIX

Abstracts of Academic Games Program Reports

CSOS Rep. No. 8
Nov. 1967
ERIC # ED. 107 237
36 pgs.

Simulation Games and Social Theory

James S. Coleman

This theoretical paper discusses the ways in which social processes are explicitly mirrored in the structure and functioning of a simulation game. Elements of the social environment may be represented by the players or programmed into the rules; the latter method requires more empirical knowledge about the process being simulated, while the former requires a deeper theoretical understanding of the process. The rules of a simulation game are of five types: procedural rules, constraints on players' behavior, specification of players' goals, environmental response rules, and police rules. The first four types all embody assumption about the process being simulated. The use of games to simulate social behavior implies a theory in which behavior is explained at the individual level, rather than the group level, and in which behavior is seen as directed toward a goal, rather than as the automatic response to a situation or as the expression of inner tension. The existing theories of behavior which best fit the assumptions of simulation games are those that are based on the idea of exchange of control over actions. The author illustrates these ideas with examples from several simulation games.

CSOS Rep. No. 10

Dec. 1967
ERIC # ED. 016 736
131 pgs.

Simulation Games and Control Beliefs

Sarane S. Boocock
Erling O. Schild
Clarice Stoll

The effects of the simulation games Democracy and Life Career were investigated at three high schools with different student populations: all black, many disadvantaged (School A); 50% black, working-class (School B) and few black, mostly middle-class (School C). The experimental groups played Democracy for three days and Life Career for five days, one class period per day. The control group read and discussed materials covering the same content as the games. Students in the control group showed a slight increase in feelings of control over their environment; students in the experimental group showed no systematic change. This effect was consistent across the three schools. Changes in factual knowledge varied from school to school. Both treatment groups at School C and the control group at School B increased in knowledge of both subjects (careers and legislation). The experimental group at School B showed an increase in career knowledge only. Both groups at School A showed a slight decrease in both types of knowledge. A hypothesized relationship between feelings of control and learning of factual information was not supported by the data.

CSOS Rep. No. 22
May 1968
ERIC # ED. 021 944
20 pgs.

Games as Vehicles for Social Theory*

James S. Coleman

This theoretical paper discusses the relation of games to life in general, suggesting that a game constitutes an excursion, or "time out" from the goal-directed activities of life, in which an alternative set of rules is established for a delimited period. A game thus constitutes a short-term parallel to life in general. As such it acts for children as a device for the exploration of their social environment, comparable to their exploration of the physical environment at an earlier period of life. The use of games by the sociologist constitutes a formalization of this means for learning about social organization. The construction and observation of games by the sociologist are thus analogous to the experiments of the physical scientist. An example is provided by the author's use of an original game (later published as Democracy) to formulate a theory of collective decisions.

CSOS Rep. No. 23
July 1968
46 pgs.

Player Characteristics and Strategy in a Parent-Child Simulation Game

Clarice S. Stoll

On the basis of Goffman's analysis of game encounters, it was hypothesized that the behavior of players in a game would be affected by their personal characteristics outside the game. This hypothesis was tested in an experiment using Generation Gap ("Parent-Child"), a simulation of family interaction in which the rational strategy is one of mutual co-operation. The subjects were 64 black high school students of low and average academic ability. The results showed that a player-dyad was more likely to play according to this rational strategy if the players were girls, if the players were well-acquainted before the game, and if each player's game role matched the player's personal role preference.

CSOS Rep. No. 29
ERIC #ED. 026 864
Dec. 1968
25 pgs.

Autotelic Behavior in Socialization

Michael Inbar
Clarice S. Stoll

Play and games are widely held to perform a vital role in the socialization process. A selective review of the literature reveals a wide scope and variety of hypotheses. These is little evidence, however, to support most of these hypotheses. The reasons for the lack of evidence may be the apparent self-evident nature of the arguments and the difficulty of testing the theories. A survey of 108 sixth-graders in a rural school showed that frequent participation in sports was associated with school achievement, with attention span, and with the feeling that one can learn. Frequent participation in board and card games was associated with a negative self-image, with a feeling of impotency in learning, with a reliance on luck rather than on work, and with low school achievement.

CSOS Rep. No. 30
Dec. 1968
ERIC # ED. 028 465
20 pgs.

Game Experience and Socialization - An Exploratory Study of Sex Differences

Clarice S. Stoll
Michael Inbar
James J. Fennessey

A survey of 108 rural sixth-graders revealed certain relationships between game playing and personality traits. For both boys and girls, those who participate frequently in sports are not likely to be bored easily, and are likely to feel that they can learn. Frequent players of board and card games are likely to be bored easily, have a worse self-image, and yet believe that their teachers perceive them favorably. And those who participate frequently in party games tend to be confident about their chances for success, favor the importance of luck over hard work, and are likely to be bored easily. In general, the frequency of game play is higher and game play is more strongly associated with the variables studied for boys than for girls. Sports are related more to achievement-oriented values for boys than for girls. Boys who play party games frequently tend to express attitudes of complacency, while girls do not. And boys who play board and card games express a sense of efficacy while girls do not.

CSOS Rep. No. 31
Dec. 1968
ERIC # 028 464
23 pgs.

Socialization and Games: An Exploratory Study of Race Differences

Clarice S. Stoll
Michael Inbar
James J. Fennessey

A survey of 108 sixth-graders in rural Maryland showed several differences by race in the traits associated with frequent play of different types of games. In general, game play was more strongly associated with the variables studied for blacks than for whites. Sports are played by black students who hold attitudes conducive to achievement, yet are uninterested in school. White students who play sports are very interested in school. Board and card game participation is related to negativistic attitudes for both races, although more so for whites. Individual game playing is related to a sense of efficacy for blacks, but not for whites. Finally, party games have a less varied impact on whites than on blacks.

CSOS Rep. No. 39
Feb. 1969
ERIC # ED. 027 593
30 pgs.

Pilot Studies of Role Behaviors in a Parent-Child Simulation Game

Paul T. McFarlane

Six inner-city black fifth-grade boys were taught to play the Parent-Child game (Generation Gap). They played the game somewhat less effectively than a totally rational player would, but their behavior clearly indicated that they understood the optimum strategy, although they could not verbalize it. The subjects' behavior was role-specific and structure-specific; therefore the simulation game can be used as a research site in larger studies of the effect of role and structural constraints on game behavior.

CSOS Rep, No. 42
May 1969
ERIC # ED. 031 766
19 pgs.

The Effects of Two Simulation Games on the Opinions and Attitudes of Selected Sixth, Seventh, and Eighth Grade Students

Karen C. Cohen

Students in a summer school program for unmotivated junior high school students played the Democracy and Consumer games for several sessions. They reported that the games were easier, more interesting, and more competitive than their regular class work, and also allowed them more freedom to work on their own. The students' attitudes toward school remained unchanged by their game experiences, but the Democracy game produced some changes in political attitudes; the students showed an increased tendency to disagree with the idea that congressmen should vote according to their convictions, rather than their constituents' preferences, and to agree that "sending letters to congressmen is a waste of time."

CSOS Rep. No. 51
Sept. 1969
ERIC # 032 789
24 pgs.

Group Verses Individual Performance and Learning in a Computer Game: An Exploratory Study

Nancy Karweit
Samuel A. Livingston

Sixth-graders of high academic ability were randomly assigned to three treatment groups and a control group. The three treatment groups played an elementary computer-based business game: subjects in one group played alone; in another group, in pairs; and in the third group, in threes. The control group did not play the game. No systematic overall differences in learning of economic relationships or of business concepts were observed, although one particular economic relationship (between number of production workers and cost of raw materials) clearly revealed the effects of the game. The three treatment groups showed no significant differences in performance in the game. Boys tended to play the game faster than girls.

CSOS Rep. No. 63
April, 1970
ERIC # ED. 039 151
17 pgs.

Simulation Games And Attitude Change: Attitudes Toward The Poor (Questionnaire Study 1)

Samuel A. Livingston

The effect of a simulation game on players' attitudes toward the poor was investigated by means of a pretest-posttest questionnaire study. The respondents were the senior class of an all-boys Catholic high school, who played the game (Ghetto) for four periods in their social studies classes. Their attitudes were significantly more favorable to the poor after they played the game than before. The students' attitude change varied significantly from teacher to teacher, but was not significantly correlated with any of several other variables investigated. These included understanding of the game, factual information about poverty, previous experience with poverty, role played in the game, and understanding of the game. The game produced no change in factual information and a small but significant decline in interest in the subject matter.

CSOS Rep. No. 64
April 1970
17 pgs.
ERIC # ED 039 156

Simulation Games as Advance Organizers in the Learning of Social Science Materials: Experiments 1-3

Samuel A. Livingston

Three experiments were conducted to test the hypotheses that a simulation game will motivate students to learn subject matter related to the game and that it will facilitate learning by acting as an organizer. Within each class, students of the same sex were paired on reading ability; one member of each pair was then assigned at random to the experimental group. Only the experimental group played the game (Trade and Develop). Both groups together then answered a brief questionnaire intended to measure motivation and attempted a learning task, which involved the learning of facts from a textbook or filmstrip. The results showed no significant difference between the two groups, in either motivation or learning, in any of the three experiments.

CSOS. Rep. No. 65
April 1970
8 pgs.
ERIC # ED 038 733

Effects of the Consumer Game on Learning and Attitudes of Selected Seventh Grade Students in a Target-Area School

Karen C. Cohen

This report describes in detail one teacher's use of the Consumer game for one week (five class periods) in a class of disadvantaged seventh-grade students. A similar class taught by the same teacher served as a control group. The students who played Consumer showed a greater knowledge of terms concerned with consumer credit (e.g., "collateral," "repossession") than the control group. They also showed a marked decrease (17%) in frequency of absences. The students who played the game were asked to compare it with their regular class work on several dimensions; they felt that their regular class work was better organized, but that the game was more interesting and more competitive and allowed them more freedom to work on their own.

CSOS Rep. No. 67
May 1970
45 pgs.
ERIC # ED 039 607

Measuring Behavioral Learning: A Study in Consumer Credit

C. Raymond Anderson

The game Consumer was used to study the effectiveness of simulation in teaching facts about installment buying, how to compare available sources of credit, and how to recognize the best credit contract. The entire twelfth grade at one high school --280 students-- participated in the study. Intact classes were assigned to experimental and control groups. Individual teachers had both types of classes. Experimental classes played two games of Consumer, which lasted for six class meetings; control classes had one curriculum unit on consumer use of installment contracts. Two dependent-variable measures were developed: a test of facts and concepts, consisting of true-false and multiple choice items, and a pencil-and-paper simulation of the process of buying a car. (The "To Buy a Car" test is included in its entirety as an appendix to the paper.) There was no significant difference between simulation and conventional instruction with regard to factual learning. The simulation was more successful in producing credit-comparison shopping behavior on the "To Buy a Car" test. The results suggest that simulation games are better able to produce behavioral changes than are conventional classroom techniques.

CSOS Rep. No. 81
Sept. 1970
ERIC # ED 042 595

Giant Steps: A Game to Enhance Semantic Development of Verbs

Doris R. Entwisle
David Grafstein
John Kervin
Marian Rivkin

A game intended to improve children's language development, by teaching them to use synonymous verbs interchangeably, was tested in an experiment with 45 inner-city third-grade children. The experimental group played the game on three successive days; the control group did not. Effects of the game were measured by a word-association task. The experimental group showed a marked increase in the incidence of form-class related responses; the control group showed almost no change.

CSOS Rep. No. 92
January 1971
ERIC #
18 pgs.

The Influence of Games on School Achievement Abilities and Attitudes

Gili Schild

A questionnaire was administered to 524 Israeli school children, ages 9 to 13, to determine the relationships between game-playing, school achievement, and several psychological traits: intelligence (as indicated by vocabulary knowledge), self-esteem, creativity (a measure of productivity, rather than novelty or quality), ability to concentrate, and sense of control (internal vs. external). Game-playing behavior, as indicated by the number of physical games and the number of intellectual games played, explained almost none of the variation in school achievement that was not already explained by the five psychological traits. However, when family background was statistically controlled, there were relationships between game-playing and the psychological variables themselves: a strong positive relationship between number of physical games played and sense of control, and weak positive relationships between number of intellectual games played and sense of control, creativity, and ability to concentrate.

CSOS Rep. # 104
June 1971
ERIC # ED 052 392
17 pgs.

Two Types of Learning in a Business Simulation

Samuel A. Livingston

Fourteen high school students, chosen at random from a group of twenty-eight, spent five hours participating in a business simulation, after which all twenty-eight students took tests designed to measure their knowledge of business facts and concepts and their ability to elaluate business decisions. The simulation group outperformed the control group on both tests, but the difference approached statistical significance only for the test of facts and concepts. Verbal ability was highly correlated with scores on the test of facts and concepts in both groups but was correlated with scores on the situation test in the control group only.

CSOS Rep. No. 111
August 1971
93 pages
ERIC # ED. 054 513

Emotional Arousal and Attitude Change During Simulation Games

Steven J. Kidder

This study explores the use of physiological and behavioral indices of emotional arousal and mood during performance in a simulation game. It was hypothesized that variations in heart rate would be related to changes in attitudes, the cognitive components of which are dealt with in the simulation game (Ghetto). In addition, it was hypothesized that the emotional arousal (as indicated by fluctuations in heart rate) experienced by one participant in the game situation would generalize to other participants. The results provide some support for validity of these hypotheses.

CSOS Rep. No. 114
September 1971
ERIC # ED. 055 005

Effects of a Legislative Simulation Game on the Political Attitudes of Junior High School Students

Samuel A. Livingston

Two studies were conducted to investigate the effects of the Democracy game on the political attitudes of junior high school students. In one study, 47 students were measured before and after the game; in the other study, 209 students were randomly assigned to an experimental group, which played the game, and a control group, which did not. The students played the game for two 45-minute class periods in each study. The game produced marked increases in the students' acceptance of the practice of "log-rolling" by congressmen. In one of the studies it also increased the students' feelings of political efficacy. The game did not increase the students' interest in politics and the legislative process.

CSOS Rep. No. 115
September 1971
ERIC # ED. 155 309

The Effect of Ability, Achievement, and Number of Plays on Learning From a Simulation Game

Keith J.Edwards

This study examines the effect on learning of repeated plays of the simulation game Trade and Develop (T/D). It also examines the effects of students' ability, using a general measure (determined by school tracking procedures) and a specific measure (achievement test in the specific class).

The results of the study indicate that, after playing the basic version of T/D twice, further playing of the basic game or the advanced game will not increase students' understanding of the mechanics of the game, strategies of play, or analogies between the game model and the real situation.

The effect of students' general ability on learning in the game was not as strong for learning of strategies as for learning the mechanics of the game, or for understanding of the analogies between the game and real life. The learning of game mechanics and of strategies was not related to the specific measure of achievement, but the correlation between learning of analogies and the achievement measure was significant. These results are discussed in terms of a learning model for games proposed by Coleman (1967, 1971).

CSOS Rep. No. 116
October 1971
ERIC # ED. 157 613

The Training Effects of a Behavior Modification Game

Steven J. Kidder
John T Guthrie

This experiment was an evaluation of a game designed to teach some of the skills used in behavior modification with slow learners. The game was developed for college students preparing to be special-education teachers. A randomized, post-test only design was employed. The design incorporated three treatments - lecture only, game, and game-discussion-game - plus a control group. Two measures of the treatment effect were used: a written test based on hypothetical classroom situations, and a performance test. The performance test required each subject to teach a special-education child a simple paper construction task. The subject's score was the number of positive reinforcements the subject gave the child. The results showed a treatment effect for the performance measure, with the game-discussion-game treatment having the greatest effect.

CSOS Rep. No. 118
October 1971
ERIC # ED. 057 612

Simulation Games and Attitudes Toward the Poor: Three Questionnaire Studies

Samuel A. Livingston

Three before-and-after questionnaire studies with the simulation game Ghetto showed the players' attitudes to be more favorable to the poor immediately after the game than before. A retest given four months after the game in one of the studies and a delayed post-test given one week after the game in another study did not show any effect for the game. No consistent relationships were found between attitude change and understanding of the game.

CSOS Rep. No. 121
ERIC # ED. 058 142
28 pp.
December, 1971

Students' Evaluations of a Business Simulation Game as a Learning Experience

Keith J. Edwards

Ninety-nine junior college students in introductory business courses answered a questionnaire after playing a business simulation game as an ongoing, semester-long activity. The results support the claims that games are self-judging, increase student motivation, and increase students' efficacy in areas related to the game, but not the claim that games have special value for low-achieving students. The students considered the game experience most valuable for learning relationships and for getting a feeling for the real situation. In general, the students' evaluation of the game as a learning experience was positively related to their understanding of the instructor's reasons for using the game. Also, acceptance of the game as self-judging was associated with low tolerance for ambiguity, and reported increases in business efficacy were related to the students' course grades and their understanding of the game.

CSOS Rep No. 128
April, 1972
ERIC # ED 062 303
14 pp., plus appendices

Simulation, Gaming, and Conventional Instruction: An Experimental Comparison

Gail Fennessey

An environmental problems unit was organized to be taught with three approaches. One approach contained two simulation exercises, one contained a simulation game and a simulation exercise, and one contained no simulations. These approaches were compared for their effectiveness for teaching facts and relationships and for producing favorable attitudes. An experiment involving 60 classes (1,874 students) at the 3rd, 4th, and 8th grade levels showed the three treatments to be equally effective.

CSOS Rep. No. 134
July, 1972
17 pp.

Role Identification and Game Structure: Effects on Political Attitudes

Samuel A. Livingston
Steven Kidder

The effectiveness of the simulation game Democracy in teaching high school students that "log-rolling" is an acceptable part of the legislative process was experimentally shown to depend on both the game structure and the identification of the player's role as that of a congressman. 218 subjects were randomly assigned to five groups. The subjects in one group played Democracy. Those in three other groups played incomplete versions of Democracy, with either the role-identification or the key elements of the game structure removed from the game. A control group played an irrelevant game. The incomplete versions were substantially less effective than the complete version of the game at increasing the subjects' acceptance of log-rolling. The Democracy game also produced a small decrease in the students' political efficacy. The students' intentions to participate in the political process were not significantly affected.

CSOS Rep. No. 140
October, 1972
22 pp.

Simulation Games and Political Attitudes: The Importance of Role Identification and Game Structure

Samuel A. Livingston

In an experiment conducted under classroom conditions, the simulation game Democracy was shown to be effective at teaching that "log-rolling" is an acceptable part of the legislative process. Two aspects of the game -- role identification and game structure -- were shown to contribute independently to its effectiveness. The game proved ineffective at changing political attitudes not directly related to log-rolling.

CSOS Rep. No. 145
December, 1972
24 pp.

Attitude Change and Number of Plays of a Social Simulation Game

Steven J. Kidder
Horace E. Aubertine

An experimental study was conducted in order to determine the effect of number of plays of the social simulation game Ghetto on attitudes toward people in general and ghetto people. It was expected that attitude change would increase with an increase in the number of plays of the game. This effect was not obtained. The game effect was greatest immediately after a thirty-five minute introduction to the game followed by two rounds of the game. The students' attitudes toward ghetto people seemed unusually positive for all treatment groups whether they played the game or not. Nevertheless, because the largest effect was obtained after the shortest experience with the game, it was suggested that teachers might use the game as a brief introduction to social problems in inner-city environments.

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